
NeuBright, a purified allogeneic cell therapy product for treatment of Dry Age-related Macular Degeneration

Grant Award Details

NeuBright, a purified allogeneic cell therapy product for treatment of Dry Age-related Macular Degeneration

Grant Type: Therapeutic Translational Research Projects

Grant Number: TRAN1-11300

Investigator:

Name:	Theodore Leng
Institution:	Stanford University
Type:	PI

Disease Focus: Age-related macular degeneration, Vision Loss

Human Stem Cell Use: Adult Stem Cell

Award Value: \$4,238,532

Status: Pre-Active

Grant Application Details

Application Title: NeuBright, a purified allogeneic cell therapy product for treatment of Dry Age-related Macular Degeneration

Public Abstract:**Translational Candidate**

NeuBright is an allogeneic cryopreserved neural stem cell therapy product

Area of Impact

Dry Age-Related Macular Degeneration (AMD)

Mechanism of Action

Similar to RPE cells, NeuBright cells restore phagocytic function to the retina, secrete anti-inflammatory and trophic factors (VEGF and BDNF), maintain retinal integrity and prevent vision decline. Cells migrate radially from transplant site, self-renew to produce more cells and stimulate proliferation of endogenous host RPE cells. These properties allow the implanted NeuBright cells to exert protective effects over larger target areas and could potentially restore areas of geographic atrophy.

Unmet Medical Need

AMD is the leading cause of irreversible vision loss in people over 60 in the US with no effective therapies. AMD incidence is rapidly increasing as the average age of the population increases. NeuBright cells will halt the process (slow progress, regression, etc) of vision loss.

Project Objective

Successful Pre-IND meeting

Major Proposed Activities

- Manufacturing process changes for more consistent and better procedural delivery of the NeuBright product.
- Animal study to confirm dose, delivery instrument and local immunosuppression regimen achieving >50% of eyes with product.
- Alignment with FDA on successful path to Phase 2 IND for geographic atrophy in AMD.

Statement of Benefit to California:

Dry age-related macular degeneration (AMD) is the most prevalent retinal degenerative disorder and represents a significant unmet medical need with no therapy to slow progression or cure this debilitating disease. In California, a 2014 analysis estimated the cost due to vision loss and blindness at \$7,592M and \$8,054M respectively. NeuBright cells have preliminary evidence of efficacy and proposed changes should enhance patient access, commercial viability and accelerate path to market.

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